

What is claimed is:

1. An adhesive sheet for a light-emitting diode device, which comprises
a thermoplastic polymer containing epoxy groups and
5 a compound containing functional groups which are addition reactive with epoxy
groups, or a polymerization catalyst which can effect a ring opening polymerization of the
epoxy groups,
and in which said thermoplastic polymer is cross-linked so that its flowability is
restrained.
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2. The adhesive sheet according to claim 1, wherein said thermoplastic polymer
containing epoxy groups is a polyolefinic copolymer containing epoxy groups.
3. The adhesive sheet according to claim 1, wherein said thermoplastic polymer
15 containing epoxy groups is obtained by copolymerizing a vinyl groups-containing
monomer with an epoxy groups-containing monomer which is copolymerizable with said
vinyl groups-containing monomer.
4. The adhesive sheet according to any one of claims 1 through 3, further comprising
20 a thermoplastic polymer which contains no epoxy group.
5. The adhesive sheet according to any one of claims 1 through 4, wherein the cross-
linking structure of said thermoplastic polymer is formed by an irradiation of an electron
ray.
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6. The adhesive sheet according to any one of claims 1 through 4, wherein said
adhesive sheet comprises a polymerization catalyst by which epoxy groups can be ring
opened polymerized, and wherein the cross-linking structure of said thermoplastic
polymer is formed by ring opening polymerization of the epoxy groups by said
30 polymerization catalyst with the irradiation of a ultraviolet ray or the application of heat.

7. The adhesive sheet according to claim 4, which comprises a composition comprising

10 to 95 mass % of a polyolefin copolymer containing epoxy groups in its molecule, as a thermoplastic polymer containing epoxy groups,

5 4 to 80 mass % of a polyolefin copolymer containing carboxylic acid ester groups in its molecule, as a thermoplastic polymer containing no epoxy groups, and

1 to 20 mass % of a rosin containing carboxyl groups in its molecule, as a compound containing functional groups which are addition reactive with said epoxy groups, and wherein said composition is irradiated with an electron ray to form a cross-linking structure therein.

8. The adhesive sheet according to any one of claims 1 through 7, wherein its flow property is 110 to 210 %.

15 9. A light-emitting diode device comprising a light-emitting diode element, a circuit board, a fluorescent material-containing resin, a lens and a fluorescent material-containing resin sealing frame, wherein said circuit board is adhered by the adhesive sheet according to any one of claims 1 through 8 to the sealing frame.

20 10. A light-emitting diode device according to claim 9, wherein said sealing frame has functions of reflectivity and heat-radiation property.

25 11. A light-emitting diode device comprising a light-emitting diode element, a circuit board, a fluorescent material-containing resin, a lens, a reflecting plate and a heat-radiation plate or box, wherein said circuit board is adhered by the adhesive sheet according to any one of claims 1 through 8 to the heat-radiation plate or box, or to the reflecting plate.